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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jae-Sun Cha

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EXAMINER

DESIR, PIERRE LOUIS

ART UNIT

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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,248	Applicant(s) CHA ET AL.	
	Examiner PIERRE-LOUIS DESIR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 27-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 27 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example, the generating method including steps of generating a request message and inserting a base station identifier into the message is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. The Applicants have not provided any explicit and deliberate definitions of generating and granting to limit the steps of the method, and the claim language itself is sufficiently broad to read on an individual/person writing on a notebook, for instance, a

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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ranging request message and including with the message a base station identifier. And that message will be used at later time for transmission purposes. The claim language does disclose that the generating of the message is for transmission; however, transmitting of a message is different from having a message for transmission.

Claim Objections

3. Claim 27 is objected to because of the following informalities: “transmitting a target base station” should be “transmitting to a target base station”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 20-21, 24, 27, 30, 33 are rejected under 35 U.S.C. 102(a) as being anticipated by Barber, “Revision of Hand-over mechanism for mobility Enhancement,” 2004-01-02.

Regarding claim 20, Barber discloses a method of performing a handover on a subscriber station in a target base station, the method comprising:
receiving a ranging request message including a base station identifier of a previous serving base

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station from the subscriber station (i.e., MSS RNG-REQ includes an unexpired serving BS ID) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5); acquiring information of the subscriber station through the base station identifier of the previous serving base station (i.e., if the RNG-REQ contains the unexpired serving BS ID, Target BS makes an MSS information request of serving BS over the backbone and serving BS may respond) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5); transmitting a response message on the ranging request message to the subscriber station (i.e., RNG-RSP) (see page 9, Target BS Initial Ranging Phase); and performing network re-entry on the subscriber station (i.e., network re-entry process completes with establishment of MSS normal operations) (see page 2, Network Re-entry section. Also refer to 1.4.1.2.2.5 Network Entry/Re-entry section which covers the RNG-Req and the target BS retrieving MSS information from the serving BS).

Regarding claim 21, Barber discloses a method (see claim 20 rejection), wherein the acquiring comprises: requesting the information of the subscriber station to the previous serving base station based on the base station identifier of the previous serving base station (i.e., if the RNG-REQ contains the unexpired serving BS ID, Target BS makes an MSS information request of serving BS over the backbone and serving BS may respond) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5); and receiving the information of the subscriber station from the previous serving base station (i.e., Serving BS responds to the request) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5).

Regarding claim 24, Barber discloses a method of performing a handover in a subscriber station of a communication system, the method comprising: transmitting a ranging request message including a base station identifier of a previous serving base station to a target base

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station (i.e., MSS RNG-REQ includes an unexpired serving BS ID. Thus, the MSS sends and the target BS receives a MSS RNG-REQ message) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5); receiving a ranging response message from the target base station ((i.e., RNG-RSP) (see page 9, Target BS Initial Ranging Phase)) that has acquired information of the subscriber station through the base station identifier of the previous serving base station (i.e., if the RNG-REQ contains the unexpired serving BS ID, Target BS makes an MSS information request of serving BS over the backbone and serving BS may respond) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5); and performing network re-entry through the target base station (i.e., network re-entry process completes with establishment of MSS normal operations) (see page 2, Network Re-entry section. Also refer to 1.4.1.2.2.5 Network Entry/Re-entry section which covers the RNG-Req and the target BS retrieving MSS information from the serving BS).

Regarding claim 27, Barber discloses a method of generating a message for a handover in a subscriber station, the method comprising: generating a ranging request message for transmitting a target base station and inserting a base station identifier of a previous serving base station into the ranging request message (i.e., MSS RNG-REQ includes an unexpired serving BS ID. Thus, if the message was sent to the target BS and the message received message includes the serving BS ID, the message was generated with an inserted serving BS ID) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5).

Regarding claim 30, Barber discloses a method of performing a handover on a subscriber station in a target base station, the method comprising: receiving a ranging request message including a base station identifier of a previous serving base station from the subscriber station (i.e., MSS RNG-REQ includes an unexpired serving BS ID) (see section 1.4.1.2.2.5 Network

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entry/re-entry, page 5); transmitting a response message on the ranging request message to the subscriber station (i.e., RNG-RSP) (see page 9, Target BS Initial Ranging Phase); and performing network re-entry on the subscriber station (i.e., network re-entry process completes with establishment of MSS normal operations) (see page 2, Network Re-entry section. Also refer to 1.4.1.2.2.5 Network Entry/Re-entry section which covers the RNG-Req and the target BS retrieving MSS information from the serving BS).

Regarding claim 33, Barber discloses a method of performing a handover in a subscriber station, the method comprising: transmitting a ranging request message including a base station identifier of a previous serving base station to a target base station (i.e., MSS RNG-REQ includes an unexpired serving BS ID) (see section 1.4.1.2.2.5 Network entry/re-entry, page 5); receiving a response message on the ranging request message from the target base station (i.e., RNG-RSP) (see page 9, Target BS Initial Ranging Phase); and performing network re-entry through the target base station (i.e., network re-entry process completes with establishment of MSS normal operations) (see page 2, Network Re-entry section. Also refer to 1.4.1.2.2.5 Network Entry/Re-entry section which covers the RNG-Req and the target BS retrieving MSS information from the serving BS).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 22-23, 25-26, 28-29, 31-32, 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barber in view of Koo et al. (Koo), "Inter-BS communication for IEEE 802.16e Handoff," 2003-05-14.

Regarding claims 22, 25, 28, 31, and 34, Barber discloses a method as described above (see claims 20, 24, 27, 30, and 33 rejections).

Although Barber discloses a method as described, Barber does not specifically disclose a method wherein the ranging request message further includes a media access control (MAC) address of the subscriber station.

Koo discloses a method wherein the RNG-REQ provided to the target BS includes 48-bit universal MAC address (see page 7, section 6.2.6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Koo with the teachings described by Barber to arrive at the claimed invention. A motivation for doing so would have been to uniquely identify the MSS and allow frames to be properly marked for the MSS.

Regarding claims 23, 26, 29, 32, and 35, Barber discloses a method as described (see claims 20, 24, 27, 30, 35 rejections).

As disclosed in the rejection of claim 20, Barber discloses that serving BS ID is included in a RNG-RREQ message sent to the target BS. Barber, however, does not specifically disclose a method wherein a length of the base station identifier of the previous serving base station length is 48 bits.

However, Koo discloses that it is well known in the art to have a BS ID is a unique identifier with a 48-bit size (see section 6.2.1, table 2).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as disclosed by Koo with the teachings described by Barber to arrive at the claimed invention. A motivation for doing so would have been to properly and uniquely identify the base station.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Barber, "Revision of Hand-over mechanism for mobility Enhancement", 2003-11-12, IEEE 802.16 Broadband Wireless Access Working Group, IEEE C802.16e-03/57r2.

In this paper, Barber discloses RNG-REQ and RNG-RSP, discloses that BS ID is a 48 bit long field uniquely identifying the BS, and describes MSS 48-bit MAC address unique identifier.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PIERRE-LOUIS DESIR whose telephone number is (571)272-7799. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (571)272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PIERRE-LOUIS DESIR/
Examiner, Art Unit 2617